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**REMARKS**

Claims 1-19 are pending in the application. Claims 1-19 are rejected. The Examiner's rejections are addressed below in substantially the same order as in the office action.

**Comments Regarding the Amendments**

Claim 6 has been amended to delete the term "vigorous" in response to the Examiner's §112 rejection.

**Claim Rejections – 35 USC §112**

Claim 6 stands as rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is the position of the Examiner that "Vigorous" renders the claim indefinite because it is subjective language.

Claim 6 has been amended to delete the term "vigorous." Claim 6 is believed to be allowable under §112.

**Claim Rejections - 35 USC § 102**

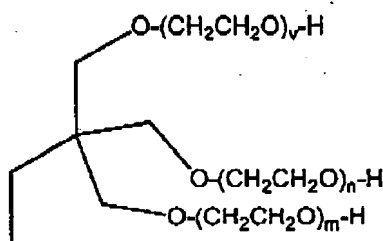
Claims 1-4 stand as rejected under 35 U.S.C. 102(b) as being anticipated by Morishima et al. ('539). It is the Examiner's position that '539 discloses a water-dispersible blocked polyisocyanate that contains a nonionic hydrophilic surfactant and that the nonionic hydrophilic surfactant consists of poly(alkylene)ether that is based on ethylene oxide, which is trimethylol propane Initiated, has a degree of polymerization between 5 and 50, and is present at a concentration of at least 70-mol% in the surfactant. The Examiner further states that this satisfies compound (iii) of claims 1 and 3.

The Examiner further states that the polyisocyanates consist of hexamethylene diisocyanate (HDI), 2,4-toulene diisocyanate (2,4-TDI), 2,6-toulene diisocyanate (2,6-TDI),

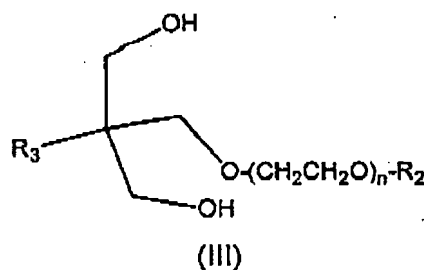
as well as trimethylol propane modified isocyanurates wherein the polyisocyanates may be used either singly or as a mixture of two or more species thereof. The Examiner also notes that the blocking agents disclosed consist of phenols, imidazoles, and oximes.

**The Applicants respectfully traverse the Examiner's §102 rejection over '539.** The non-ionic blocked polyisocyanates of the present application are not disclosed by '539, because the non-ionic hydrophilic surfactant of '539 does not satisfy the requirements of the compound corresponding to element (iii) of Claims 1 and 3.

Although the skeleton of trimethylol propane can be recognized in some of the non-ionic alkoxyated diols (iii), in particular in compounds of formula (I) where  $R_1$  is a radical of formula (III), when trimethylol propane is reacted with ethylene oxide to obtain the non-ionic hydrophilic surfactant, as in '539, the poly(alkylene)ether formed is:



and not a compound according to formula (I) where  $R_1$  is a radical of formula (III):



While there may be an overlap between the list of organic isocyanates of '539 and the polyisocyanate used to prepare the blocked polyisocyanates of the present application, the polyisocyanates used to prepare the blocked polyisocyanates of the present application are not claimed but are reacted with the specific alkoxyated diols of formula (I) to obtain blocked polyisocyanates which, are claimed. Since the claimed blocked polyisocyanates are not disclosed in '539, then the claims of the present application are not anticipated by '539.

**Claims 1-4 and 6-19 stand as rejected under 35 U.S.C. 102(b) as being anticipated by Reiff et al ('737).** It is the Examiner's position that '737 discloses water-dispersible blocked polyisocyanates comprising the reaction product of polyisocyanates and non-ionic hydrophilic surfactants consisting of polyethylene oxide, which is then blocked with butanone oxime, and useful in coatings. The Examiner also notes that '737 discloses polyisocyanates based on the reaction product of TDI and trimethylol propane, wherein the TDI consists of 2,4 and 2,6 isomers present in a ratio of 80:20 by weight. The Examiner further cites '737 as disclosing that solvents consisting of acetone, methyl ethyl ketone, and cyclohexanones, may be present prior and during the blocking of the NCO groups in an amount corresponding to the instant application's claimed range.

Additionally, the Examiner indicates that the blocking agent is present in a ratio of from 1:1 to 1.1:1 based on (blocking agent):(NCO groups), and that the resulting solids content of the polyisocyanate dispersion is between 25 and 50-wt% and that the blocked polyisocyanates may be useful in oil and/or water repellent textile coatings. Further, the Examiner states that these textile coatings include perfluorinated polymeric compounds and the amount of the blocked polyisocyanate is present relative to the perfluorinate compound in an ratio of 12:1 to 1:1, which satisfies claim 15 and that the blocked polyisocyanates may also be combined at a concentration of 0.5-5-wt% with a impregnating liquor, which is applied to textiles as in claims 16 and 17. It is the Examiner's position that Claims 1 and 6 are not limited only to non-ionic dispersive groups and therefore '737 anticipates applicants' claimed compositions and method.

**The Applicants respectfully traverse the Examiner's §102 rejection over '737. The non-ionic blocked polyisocyanate of the present application are not disclosed by the '737 reference because the non-ionic hydrophilic surfactant of '737 (polyalkylene ethers) are not compounds that satisfy the limitations of compounds corresponding to element (iii) of Claim 1. Like in '539, in '737 the polyalkylene ethers initiated using trivalent alcohols may be used (col. 7, lines 59-61), but compounds of formula (I) are not obtainable from ethoxylation and/or propoxylation of trivalent, i.e. tri-hydroxy, compounds.**

A further substantial difference between the blocked isocyanates of '737 and the blocked polyisocyanates of the present invention is the fact that only the former comprise NCO-reactive compounds containing ionic or potentially ionic groups. '737 does not disclose a process where the non-ionic alkoxyated diols of formula (I) are used as the polyalkylene ethers. As '737 does not describe the non-ionic blocked polyisocyanates of the present application, it also does not disclose their use in oil and/or water repellent textile coatings.

Finally, the Applicants respectfully disagree that with the Examiner's position that claims 1 and 6 are not limited to products obtained from non-ionic dispersive groups. In claims 1 and 6, the blocked polyisocyanates are said to be "non-ionic", i.e. they incorporate only non-ionic functionalities. Should they had been obtained from ionic compounds; they would not be "non-ionic". It is for these reasons that the Claims are not anticipated by the '737 reference.

#### **Claim Rejections - 35 USC § 103**

**Claim 5 stands as rejected under 35 U.S.C. 103(a) as being unpatentable over '737 in view of Jonderko et al (200210061999).** Claim 5 is a dependent claim that depends from Independent Claim 1 which has not been rejected as obvious and is, as already argued, not anticipated.

**Claims 6-14 stand as rejected under 35 U.S.C. 103(a) as being unpatentable over**

**'539** It is the Examiner's position that '539 discloses a water-dispersible blocked polyisocyanate that contains a non-ionic hydrophilic surfactant and further teach a method of production by first reacting polyisocyanates with low molecular weight polyols creating isocyanurate compounds, wherein methyl ethyl ketone solvent may be present in an amount that overlaps applicants claimed range and that the solvent may continue to be present through the subsequent reactions. The Examiner states that the next step is the isocyanurate compounds are reacted with the non-ionic hydrophilic surfactants at a temperature between 20°C and 1 50°C, resulting in an NCO content that overlaps applicants' claimed range. Finally, the non-ionic water dispersible polyisocyanates are blocked with methyl ethyl keto oxime, chemically synonymous with butanone oxime, in a ratio of 1:1 to 1:5 (NCO:Blocking Agent).

The Examiner acknowledges that patentees are silent with respect to the dispersion having a solids content between 25 and 35% by weight but alleges that it would have been obvious to obtain a solids content that corresponds to the Applicants' claimed range because it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

**The Applicants respectfully traverse the Examiner's §103 rejection over '539.** As argued above the main difference between the blocked polyisocyanates of the present application and the prior art is the use of the compounds corresponding to element (iii) of claim 1. Indeed, the problem solved by the present application is to provide stable aqueous dispersions of non-ionic blocked polyisocyanate useful in the treatment of textiles and possessing "good compatibility with other adjuvants normally used in textile finishing ... and useful as crosslinkers for textile printing pastes".

The use of the compounds (iii) in synthesis surprisingly provides the desired result. Comparative Examples 4 and 6 show that the conventional prior art polyalkylene ethers lack the stability in the dispersions necessary for practical use. None of the prior art

suggest this fact. Therefore, it is believed that it was not an obvious result of one of ordinary skill in the art to prepare the stable aqueous dispersions of non-ionic blocked polyisocyanate of the present application.

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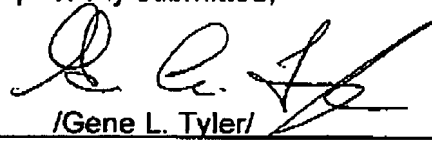
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**CONCLUSION**

For all the foregoing reasons, Applicant submits that the application is in a condition for allowance.

It is believed that no fee is due for this paper. The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to Deposit Account No. **13-0010 (LSP-1011US)**.

Respectfully submitted,



/Gene L. Tyler/

Dated: 08/14/2007

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